Reviewer’s report

Title: The predictive value of mental health for long-term sickness absence: The Major Depression Inventory (MDI) and the Mental Health Inventory (MHI-5) compared

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Reviewer: Liana Leach

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BMC Medical Research Methodology Review: The predictive value of mental health for long-term sickness absence: The Major Depression Inventory (MDI) and the Mental Health Inventory (MHI-5) compared

Major Compulsory Revisions

• Can the authors please include a limitations section in the discussion. Potential limitations of the study include the limitations of the measures used, the sample (missing data), causality issues, etc.
• I am unsure of the method/analyses the authors use to test which depression measure is a better predictor of LTSA. I am concerned that the 2 measures of depression (the MDI and the MHI-5) are too highly correlated to include in the same regression analyses. For example, in Table 2 the final model shows the MHI-5 predicts LTSA (p=.0003), but the MDI does not (p=.41). This seems strange given previous separate analyses show that both measures are clearly (and strongly) associated with LTSA independently. Could there perhaps be some kind of suppression effect happening because the 2 depression measures are too highly correlated? Thus the results are an artefact of the analyses? Could the authors provide some reassurance that the methods are sound? Perhaps other papers that have used a similar technique when comparing measures?
• Can the authors provide a stronger argument in the introduction and conclusions about why this study is important and what the findings can be used for in the future.
• Can the authors provide a clearer statement/timeline of when the different types of data were collected. I assume the questionnaire with the depression measures was taken at baseline, and then the LTSA data was at some point in time after baseline (given that the depression measure must have preceded the LTSA measure in order to draw conclusions about ‘prediction’).
• Can the authors please add a discussion of the ‘causal’ limitations in their study. While they state it assesses if depression predicts LTSA, if they do not have data on prior LTSA it could in fact be a cycle rather than a causal relationship.

Minor Essential Revisions
• The authors label p values in a different way than usual, providing exact estimates rather than p<.001. Can they please check what is conventionally done in this journal.

• Can the authors further discuss why there are cases that do not overlap between the two depression measures. They state this may mean that the 2 depression measures assess different things. Could it be that the MDI is capturing a purer depression, while the MHI-5 is capturing different types of mental health problems. E.g. anxiety? If so, is it in fact valid to be comparing the measures given they assess different things?

• Please check the grammar there are a few errors in places. There are also instances where statements are made that should be supported by a reference. Please also check the document for such instances.

Discretionary Revisions

None

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare I have no competing interests